

COMPLETED PROJECTS

SITE:	Mirvac Tower
LOCATION:	Perth CBD
SCOPE OF WORK:	Fire Protection – (Fire Sprinkler/Fire Detection)
COMPLETION DATE:	September 2015



Mirvac Tower forms part of the Cathedral and Treasury precinct and is a focal point in Perth's CBD rising 33 storeys above St George's Terrace. The building combines contemporary design with state of the art sustainability technology and is the first office building in Perth to feature a tri-generation plant. The tower has a rentable area of approximately 30,600 square metres with the Supreme Court of Western Australia being one of the major tenants.

SCOPE DETAILS

Within our scope we were tasked with the design and construct contract for all Wet Fire services and Fire Detection services for the project:

- A fully compliant Fire Sprinkler system to AS2118.1 (Annexure Building & Law Chambers Underground Car Park)
- A fully compliant Fire Hydrant system to AS2419 (Annexure Building & Law Chambers Underground Car Park)
- A fully compliant Fire Hose Reel system to AS2441 (All areas)
- A fully compliant combined Fire system to AS2118.6 (MIRVAC Tower only)
- Fully compliant portable extinguishers to AS2444.
- A fully compliant Fire Detection system to AS1668.1 and emergency warning intercommunication systems to AS1670.4

The systems were required to provide full coverage to all areas of all the buildings constructed as part of the contract including from Basement level through Podium level, to Level 33 (Roof) of the Tower including the Basement through to the Podium to Level 5 (Roof) of the Annexure Building.



Protection was also required to be provided to both levels of the communicating Law Chambers underground car park at the adjacent Church House and new City of Perth Library contracts which were being built by other contractors. This system was completely separate to that of the MIRVAC Tower & Annexure and was therefore be supplied from a different water supply.

The fire system within the MIRVAC Tower & Annexure Building was supplied via a shared water supply which was constructed as part of this installation contract. This also provided water supply to the adjacent Treasury Hotel and the Annexure building.

CHALLENGES & SOLUTIONS

Throughout the project we were faced with various challenges:

- Firstly, in the design element of the project, a lot of upfront design and coordination had to be completed in the Basement car parks which had a strict head clearance height, and with the introduction of planter boxes and generally the incoming services which fed the Tower and the Annexure building having to pass through this area; led to an intense design stage given that the construction of the upper levels pressed on where we had to be continuing with design and install in a timely manner so as not to affect the construction program.



Furthermore the space allocation provided for the pumproom to accommodate 3no multistage pumps, fire water storage tanks, pressure reducing stations, control valves and all associated pipework meant for an intricate design to be able to fully satisfy the clearance requirements and eradicate any future maintenance access issues that potentially may arise. The relay pump installation had to occur earlier in the program to provide beneficial use for the fire brigade for temporary fire fighting measures should an emergency occur during the construction phase.

- Secondly, with so many work fronts happening at any one time essentially working across 3 separate sites and various work fronts on each of those sites, the management of logistics and labour was critical so as not to affect other trades and to work efficiently in order to maintain progress which was commercially viable as well as in the best interests of the client and the requirement of the program.
- Thirdly, with so many fire interfaces at high level and low level, the commissioning element of the project was always going to be tricky and had to be managed appropriately so satisfy all the required approval authorities and other trades needs as well as fulfilling our own contractual obligations to provide a fully functioning and commissioned system to be able to handover to the fitout contractor of the project.